

Nonlocality of the NN interaction in an effective field theory

Gainutdinov R., Mutygullina A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We investigate low energy nucleon dynamics in the effective-field theory (EFT) of nuclear forces. In leading order of the two-nucleon EFT we show that nucleon dynamics is governed by the generalized dynamical equation with a nonlocal-in-time interaction operator. This equation is shown to open new possibilities for applying the EFT approach to the description of low energy nucleon dynamics.
